

# Student Scheduling System User Manual

## Student Scheduling System Part II

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03/31/2014

# Version History

Date	Author	Version	Changes made	Rationale
03/21/2014	Chenyang Bai	1.0	<ul style="list-style-type: none"><li>• Draft version of UM is formed. Initial information and guidelines added.</li></ul>	<ul style="list-style-type: none"><li>• To satisfy the requirements of the CCD/TRR and to provide instructions to the users how to use the scheduling system software.</li></ul>
03/29/2014	Bo Wang	1.1	<ul style="list-style-type: none"><li>• Add cloud server deployment procedure</li></ul>	<ul style="list-style-type: none"><li>• Detail the procedure for Cloudbees deployment</li></ul>
03/31/2014	Chenyang Bai	1.2	<ul style="list-style-type: none"><li>• Edit part 3 and part 4</li></ul>	<ul style="list-style-type: none"><li>• For CCD report</li></ul>

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# 1. Introduction

## 1.1 System Overview

The purpose of Student Scheduling System is to provide a study plan creation facilitator online for both undergraduate students and faculty of Steven's Institute of Technology.

By using the Student Scheduling System, course selecting is automated. For the student side, after entering the data of his/her course plans, a student can get possible study plan generated by the system. And for the administrative side; they can add/delete courses from the system, modify courses' features/information, form new course groups and create new degree programs. Meanwhile they are also able to delete/modify these course groups, degree programs or even requirements to complete these programs.

## 1.2 System Requirements

- Minimum hardware/software requirements for running the Student Scheduling System are given below under the related headers.
- Requirements might show minor differences among the different systems or hardware/OS equipment. Therefore; the given requirements below represent a recommended configuration as well to operate the Student Scheduling System properly.

### 1.1.1 Hardware Requirements

#### **Server Side Hardware Requirements:**

- Processor : Intel® Xeon E3xxx Processor or equivalent.
- Memory : 3GB
- Storage : 5GB for database tier
- Data Bandwidth: (Relative to the simultaneous numbers of users.) ~1 Mbit/s
- Domain Name and Dedicated IP address
- I/O Devices for Maintenance Issues

#### **User Side Hardware Requirements:**

- Processor : Intel® Centrino/Ix/Celeron/PentiumIV; AMD Athlon/Phenom/FX processors or equivalent.
- Memory : 1GB free space
- Internet Connection
- I/O Devices to operate Web Browsers properly.

### 1.1.2 Software Requirements

#### **Server Side Software Requirements:**

- UNIX Server or Windows Server
- Java Runtime Environment 7 or higher.

- MySQL Server
- PLAY framework for Java
- Java Editor (Recommended for maintenance issues)
- XAMPP (Recommended for maintenance issues)
- Java IDE for maintenance.

**User Side Software Requirements:**

- Windows, Linux, MacOSx or equivalent (mobile) operating system that can operate supported web browsers.
- Google Chrome (Strongly recommended.)
- Java Runtime Environment 7 or higher.

### 1.1.3Other Requirements

## 2. Installation Procedures

*<< In a system where the end user is expected to install the product, the Installation Instructions can be included in the user's guide. For complicated installation where qualified service staff is needed, a separate Installation Manual should be documented.*

*If your system does not need any installation, you can skip this section. >>*

### 2.1 Initialization procedures

#### 2.1.1 Application Deployment on Cloud

##### Credentials:

- Email: `csci577team10@gmail.com`
- Email password: `zuzhangshiwangbo!`
- Cloud service: <http://www.cloudbees.com>
- Username on cloud: `team10`
- Email used to login the cloud: `csci577team10@gmail.com`
- Password to login to the cloud: `zuzhangshiwangbo!`

##### Prerequisites (Local Machine):

- JDK 7
- BeesSDK (see installation instructions here: <http://developer.cloudbees.com/bin/view/RUN/BeesSDK> )
- MySQL Workbench (see installation instructions here: <http://dev.mysql.com/downloads/tools/workbench/> )
- Binary distributive of the application (see section: Binary distributive creation for target server).
- Database dump file (from `sss/Database/sssVX_X.sql` or from production server)

BeesSDK is a set of utilities from cloudbees. You just need to download distributive (zip archive) from the website and unzip it.

After that you can run it from `/cloudbees-sdk-1.5.2` folder by using `'bees'` command.

##### Deployment (from local machine to the cloud):

For general instructions on how to deploy PLAY framework applications on cloudbees.com; you can find useful resources here: <http://wiki.cloudbees.com/bin/view/RUN/Playframework>

If you need to deploy new version of application software on already operating server skip steps 1-5 and do only step 6.

If you need to restore data on the operating server, do step 5.



1. Create a new application called 'app':  
In web browser open <http://www.cloudbees.com/>  
Login the system using credential above.  
Then click 'ClickStart' (top left corner) and select 'Play! Framework 2'.  
Enter application name: *app*
2. Create DB called 'sss\_db', in command line run:  
*bees db:create sss\_db*  
  
You will need to enter a unique user name and password for this DB. As result you will see:  
Database Username (must be unique): *team10*  
Database Password: *root*  
database created: *sss\_db -u team10 -p root*
3. Bind application and DB:  
*bees app:bind -a app -db sss\_db*
4. Update *sss/conf/application.conf*, so that:  
*db.default.driver=com.mysql.jdbc.Driver*  
*db.default.url="ec2-50-19-213-178.compute-1.amazonaws.com/sss\_db?*  
*characterEncoding=UTF-8"*  
*db.default.user=team10*  
*db.default.password="root"*  
*db.default.logStatements=true*  
  
Then build a binary distributive: *play dist*  
  
You can find DB configuration parameters by calling:  
*bees db:info sss\_db*  
  
And it will show:  
Database name : *sss\_db*  
Account : *team10*  
Status : *active*  
Master : *ec2-50-19-213-178.compute-1.amazonaws.com:3306*  
Port : *3306*  
Username : *team10*
5. Populate DB with initial data:  
Run MySQL Workbench (graphical tool), connect to the DB using credential listed earlier ("New server instance" button).  
Then press "Manage Import / Export" button and select section "Data Import / Restore".  
Then select database dump file in field "Import from self contained file".  
Select Database 'sss\_db' and press import.  
  
Set the runtime parameter:  
*bees config:set -a app -P db.default.url=jdbc:mysql://ec2-50-19-213-178.compute-1.amazonaws.com:3306/sss\_db*  
  
*bees config:set -a app -R java\_version=1.7*
6. Deploy binary distributive:  
*bees app:deploy -a app -t play2 -R java\_version=1.7 target/universal/sss-1.0-SNAPSHOT.zip*  
  
You should be able to see:  
*Application parameters: {containerType=play2}*

```
.....uploaded 25%
.....uploaded 50%
.....uploaded 75%
.....upload completed
deploying application to server(s)...
Application student-scheduling/app deployed: http://app.team10.cloudbees.net
```

## 2.2 Re-installation


<< *Describe procedures for reinstalling the system (e.g., to recover from a corrupt installation).* >>

## 2.3 De-installation

<< *Describe procedures for removing the system.* >>

### 3. Operational Procedures

For the Administrative Users:



## Student Scheduling Management System

Course	Course Group	Requirement	Degree Program	Help
Add New Course				
Abbreviation	Course Name	Prerequisites	Corequisites	Options
CS 115	Introduction to Computer Science	-	-	edit / delete
CS 146	Introduction to Web Programming and Project Development	-	-	edit / delete
CS 284	Data Structures	CS115	CS135	edit / delete
CS 334	Automata & Computation	CS115, CS135	-	edit / delete
CS 383	Computer Organization & Programming	CS115	CS181 or CS284	edit / delete
CS 385	Algorithms	CS181 or CS284	-	edit / delete
CS 494	Compiler Design	-	-	edit / delete
CS 496	Principles of Programming Languages	CS334	CS182 or CS385	edit / delete
CS 442	Database Management System	CS182 or CS385	-	edit / delete
CS 511	Computer Programming	-	-	edit / delete
CS 488	Computer Architecture	CS383	MA222	edit / delete
CS 492	Operating System	CS383, CS392	-	edit / delete
CS 423	Senior Design I	CS182 or CS385	-	edit / delete
CS 573	Fundamentals of Cybersecurity	-	-	edit / delete
CS 424	Senior Design II	CS423	-	edit / delete
MA 115	Calculus I	-	-	edit / delete
MA 116	Calculus II	-	-	edit / delete
MA 134	Discrete Mathematics	-	-	edit / delete
MA 222	Probability and Statistics	-	-	edit / delete
MA 331	Statistical Methods	-	-	edit / delete
MGT 111	Organizational Behavior & Social Psych	-	-	edit / delete

Figure 1

Appendix 1: The first page of the administrative side is “course”, which is in the top of the screen, click “course” from the menu, we can skip to “course” page, as Figure 1 shows. In this page you can click “edit” or “delete” button to handle the existing courses.

Appendix 2: In “course” page, if you want to add new courses, you can click the “Add New Course” button, then the page will skip to “Course -> Add new course” page, which shows in Figure 2 below.

Course	Course Group	Requirement	Degree Program	Help
<a href="#">Course -&gt; Add new course</a>				
Prefix&Number: <input type="text"/> - <input type="text"/>				
Course Name: <input type="text"/>			Credits: <input type="text"/>	
Available semester(s) for this course on campus:				
<input type="checkbox"/> Spring <input type="checkbox"/> Summer <input type="checkbox"/> Fall <input type="checkbox"/> Winter				
Available semester(s) for this course onLine:				
<input type="checkbox"/> Spring <input type="checkbox"/> Summer <input type="checkbox"/> Fall <input type="checkbox"/> Winter				
The prerequisites of the course :			<input type="text"/> ADD <input type="button" value="?"/>	
The corequisites of the course :			<input type="text"/> ADD <input type="button" value="?"/>	
<input type="button" value="SUBMIT"/>				

Figure 2

## Appendix 3:

**In “Course -> Add new course” page,** you can add courses by inputting course Prefix&Number such as “CS-115”. Then you can add course name and course credit such as “Introduction to Computer Science” and its credits is “3”. After that, you can select available semester for this course both on campus and online. In the end, if the course has prerequisites or corequisites courses, you should input the relevant courses in the corresponding input box(if the courses have “and”, “or” relationship, you should also choose the relation for the courses, and select group for the courses) after that, click “add” button, if you want to cancel the courses you have selected, you can double click on the course, then it will be canceled. When you finish the adding courses process, you can click “Submit” button. As Figure 3 and Figure 5 show below:

The prerequisites of the course :

The corequisites of the course :

ADD ?

ADD ?

CS115 - Introduction to Computer Science  
 CS146 - Introduction to Web Programming and Project Development  
 CS284 - Data Structures  
 CS334 - Automata & Computation  
 CS383 - Computer Organization & Programming  
 CS385 - Algorithms  
 CS494 - Compiler Design  
 CS496 - Principles of Programming Languages  
 CS442 - Database Management System  
 CS511 - Computer Programming  
 CS488 - Computer Architecture  
 CS492 - Operating System  
 CS423 - Senior Design I  
 CS573 - Fundamentals of Cybersecurity  
 CS424 - Senior Design II  
 CS105 - Introduction to Computer Science  
 CS181 - Introduction to Computer Science Honors I

Figure 3

The prerequisites of the course :

The corequisites of the course :

ADD ?

ADD ?

1 CS115 AND 1 CS284

1

1

AND

OR

SUBMIT

Figure 4

## Appendix 4:

Then we can go to the course group page, as Figure 5 shows below, in this page, you can click “edit” or “delete” button to handle the information of existing course groups, if you want to add new course groups, you can click “Add New Course Group” button to go to Add new course group page, which shows in Figure 6



Course	Course Group	Requirement	Degree Program	Help
Add New Course Group				
Abbreviation	Group Name	Options		
CS Course	Required Computer Science Courses	edit / delete		
Math Course	Required Math Courses	edit / delete		
MGT Course	Required Management Course	edit / delete		
PE Course	Required Physical Education Courses	edit / delete		
SCI Course I	Required Science Courses I	edit / delete		
SCI Course II	Required Science Courses II	edit / delete		
SCI Course III	Required Science Courses III	edit / delete		
SCI Course IV	Required Science Courses IV	edit / delete		
SCI Course V	Required Science Courses V	edit / delete		
L/P Group A	Group A: Literature / Philosophy	edit / delete		
H/SS Group B	Group B: History / Social Science	edit / delete		
HSS 371	HSS 371	edit / delete		
SCI/MA Ele	Science/Math Electives	edit / delete		

Figure 5

Appendix 5: *In course group -> Add new course group page*, we can input the Abbreviation and Title for the new course group, then select courses from the left course window, after we have selected all the courses for the new course group, we can click button to make a new course group, then you make sure everything is right, clicking “submit” button to generate new course group.

Course	Course Group	Requirement	Degree Program	Help
Course Group -> New Course Group				
Abbreviation: <input type="text"/>		Title: <input type="text"/>		
Search for Course: <input type="text"/>		<input type="button" value="search"/>		
<ul style="list-style-type: none"> <li><input type="checkbox"/> CS 115 Introduction to Computer Science</li> <li><input type="checkbox"/> CS 146 Introduction to Web Programming and Project Development</li> <li><input type="checkbox"/> CS 284 Data Structures</li> <li><input type="checkbox"/> CS 334 Automata &amp; Computation</li> <li><input type="checkbox"/> CS 383 Computer Organization &amp; Programming</li> <li><input type="checkbox"/> CS 385 Algorithms</li> <li><input type="checkbox"/> CS 494 Compiler Design</li> <li><input type="checkbox"/> CS 496 Principles of Programming Languages</li> <li><input type="checkbox"/> CS 442 Database Management System</li> <li><input type="checkbox"/> CS 511 Computer Programming</li> <li><input type="checkbox"/> CS 488 Computer Architecture</li> <li><input type="checkbox"/> CS 492 Operating System</li> <li><input type="checkbox"/> CS 423 Senior Design I</li> <li><input type="checkbox"/> CS 573 Fundamentals of Cybersecurity</li> <li><input type="checkbox"/> CS 424 Senior Design II</li> <li><input type="checkbox"/> MA 115 Calculus I</li> <li><input type="checkbox"/> MA 116 Calculus II</li> <li><input type="checkbox"/> MA 134 Discrete Mathematics</li> <li><input type="checkbox"/> MA 222 Probability and Statistics</li> </ul>		<div> </div>		
<input type="button" value="SUBMIT"/>				

Figure 6

Appendix 6: For requirement, it includes simple requirement page and requirement page, in the *simple requirement page*, showing in the Figure 7 below:

Course	Course Group	Requirement	Degree Program	Help
--------	--------------	-------------	----------------	------

Add New Simple Requirement

Title	Course Group	Required Course Number	Options
Required Computer Science Courses	CS Course	15	edit / delete
Required Math Courses	Math Course	5	edit / delete
Required Management Course	MGT Course	1	edit / delete
Required Science Courses I	SCI Course I	3	edit / delete
Required Science Courses II	SCI Course II	3	edit / delete
Required Science Courses III	SCI Course III	3	edit / delete
Required Science Courses IV	SCI Course IV	3	edit / delete
Required Science Courses V	SCI Course V	3	edit / delete
PE	PE Course	6	edit / delete
Group A: Literature / Philosophy	L/P Group A	2	edit / delete
Group B: History/ Social Science	H/SS Group B	2	edit / delete
HSS 371	HSS 371	1	edit / delete
Science/Math Electives	SCI/MA Ele	2	edit / delete

**Figure 7**

Appendix 7: For each simple requirement, it includes a title and a course group, it also includes required course numbers of the group. You can edit and delete these information of each simple requirement.

Appendix 8: If you want to add a new simple requirement, you can click “Add New Simple Requirement” button to do this. As the Figure 8 shows below:

Appendix 9:

Simple Requirement -> New Simple Requirement

Title:

Please choose a course group:

Courses are required in this group.

Courses in the course group

**Figure 8**

Appendix 10: *In requirement page*, we can edit and delete existing requirements as Figure 9 below:

Add New Requirement

Title	Options
Required Computer Science Courses	edit / delete
Required Math Courses	edit / delete
Required Management Course	edit / delete
Required Science Courses	edit / delete
Required PE Course	edit / delete
Required Humanities Course	edit / delete
Science/Math Electives	edit / delete

**Figure 9**

Appendix 11: If you want to add a new requirement, you can click “Add new requirement button” and skip to Add New Requirement page as Figure 10

Appendix 12:

Requirement -> New Requirement

---

Title:

Add simple requirement: Required Computer ▼ ADD

List of Simple Requirement:

submit

**Figure 10**

Appendix 13: For each new requirement, we should give a title and add simple requirements which includes in the requirement to the list of simple requirement. After that, we can click submit button to generate a new requirement.

Appendix 14: For degree program page, you can edit and delete existing degree program as Figure 11




Course	Course Group	Requirement	<b>Degree Program</b>	Help
--------	--------------	-------------	-----------------------	------

Add New Degree Program

Title	Options
BS in CS for students entering in September 20XX	edit / delete

**Figure 11**

Appendix 15: If you want to add a new degree program, you can click the “Add New Degree Program” button to skip to that page, shows in Figure 12:



Course	Course Group	Requirement	<b>Degree Program</b>	Help
--------	--------------	-------------	-----------------------	------

Degree Program -> New Degree Program

Title:

- ☐ Required Computer Science Courses
- ☐ Required Math Courses
- ☐ Required Management Course
- ☐ Required Science Courses
- ☐ Required PE Course
- ☐ Required Humanities Course
- ☐ Science/Math Electives

-->

<--

SUBMIT

**Figure 12**

Appendix 16: In this page, you should input the title for new degree program and select requirement for this degree from the left requirement window, then click --> <-- button to generate requirements

to the new degree program. When you make sure all is right for the new degree, you can click submit button to generate new degree program.

### For the Student side Users:

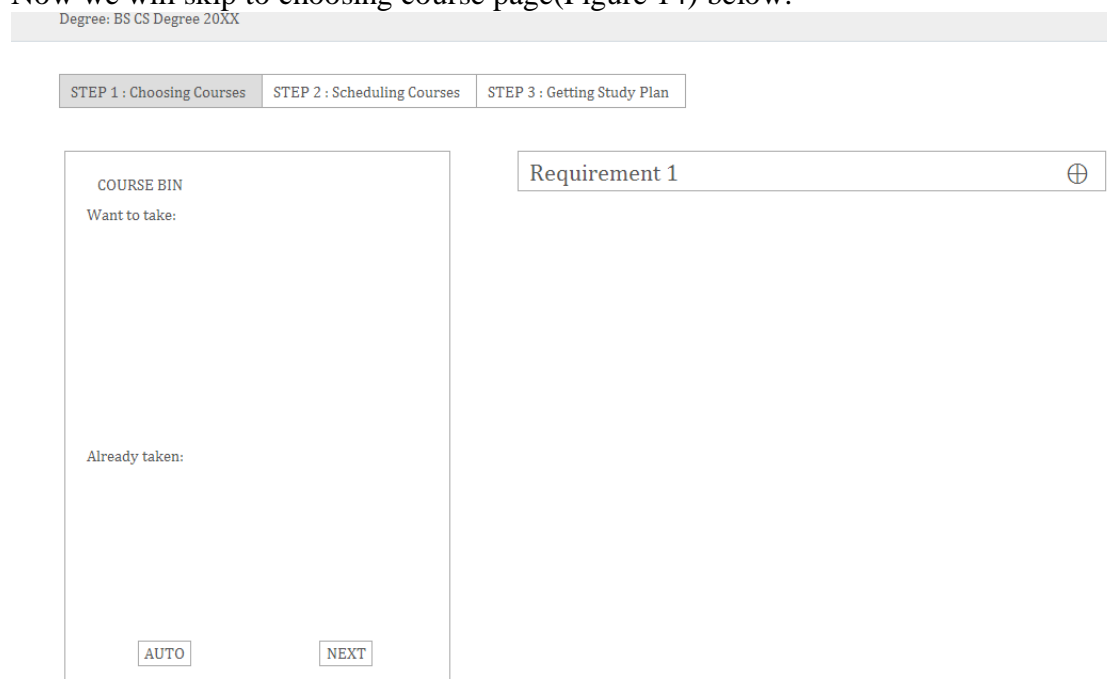
**Step 1:** (1) When you open the Student Side, you will see the page(Figure 13) below:




**Figure 13**

We are requested to choose a degree program, we can select one degree program here and **click “submit”** button.

Now we will skip to choosing course page(Figure 14) below:



**Figure 14**

Here we can click  button to choose courses from the right window, as Figure 15 shows below, we should notice that because the courses have prerequisite and corequisite relationship, so



some courses have such limit must be chosen after other courses in their requisite have been chosen. If we do not do this way, we will see error hint in as Figure 16

STEP 1 : Choosing Courses
STEP 2 : Scheduling Courses
STEP 3 : Getting Study Plan

COURSE BIN

Want to take:

CS 115 - Introduction to Computer Science ⊗

CS 135 - Discrete Structures ⊗

CS 284 - Data Structures ⊗

Already taken:

AUTO NEXT

Requirement 1

You must take all the courses listed below.

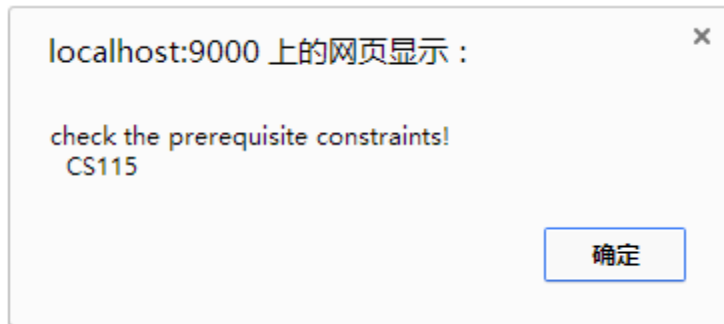
Simple Requirement 1

CS115 - Introduction to Computer Science ⊕ ⊗

CS135 - Discrete Structures ⊕ ⊗

CS284 - Data Structures ⊕ ⊗

**Figure 15**



**Figure 16**

**Step 1:** (2) You can also click “Auto” button directly if you want the system to help you generate the courses automatically. Figure 17

STEP 1 : Choosing Courses	STEP 2 : Scheduling Courses	STEP 3 : Getting Study Plan
<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">COURSE BIN</p> <p style="margin: 0;">Want to take:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p>CS573 - Fundamentals of Cybersecurity</p> <p>CS511 - Computer Programming</p> <p>CS494 - Compiler Design</p> <p>CS146 - Introduction to Web Programming and Project Development</p> <p>CS115 - Introduction to Computer Science</p> <p>CS135 - Discrete Structures</p> <p>CS284 - Data Structures</p> <p>CS383 - Computer Organization &amp; Programming</p> <p>CS334 - Automata &amp; Computation</p> <p>MA222 - Probability and Statistics</p> <p>CS488 - Computer Architecture</p> <p>CS385 - Algorithms</p> <p>CS496 - Principles of Programming Languages</p> <p>CS347 - Software Development Process</p> <p>CS423 - Senior Design I</p> <p>CS442 - Database Management System</p> <p>CS424 - Senior Design II</p> <p>CS392 - Systems Programming</p> <p>CS492 - Operating System</p> <p>MA331 - Statistical Methods</p> <p>MA134 - Discrete Mathematics</p> <p>MA116 - Calculus II</p> </div> <div style="width: 10%; text-align: center;"> <p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p><p>⊗</p> </div> </div> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required Computer Science Courses <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required Math Courses <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required Management Course <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required Science Courses <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required PE Course <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Required Humanities Course <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Science/Math Electives <span style="float: right;">⊕</span></div> <div style="border: 1px solid black; padding: 5px;">Technical Electives <span style="float: right;">⊕</span></div>	

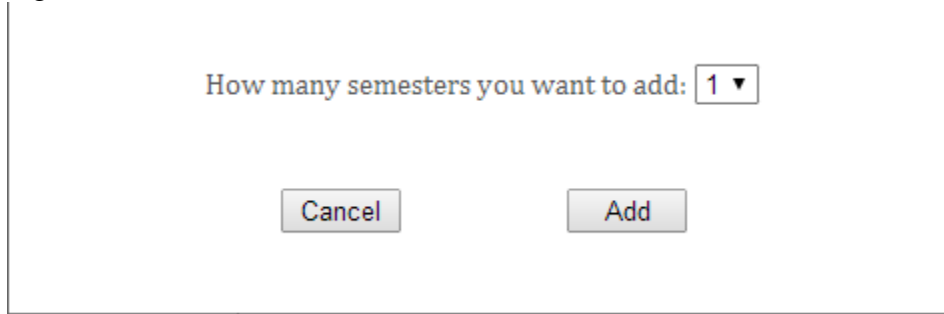
Figure 17

**Step 2:** When we have finished choosing courses, we can click “Next” button to skip to scheduling courses page, as Figure 18 shows below:

STEP 1 : Choosing Courses	STEP 2 : Scheduling Courses	STEP 3 : Getting Study Plan
<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">COURSE BIN</p> <p style="margin: 0;">Want to take:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p>CS573 - Fundamentals of Cybersecurity</p> <p>CS511 - Computer Programming</p> <p>CS494 - Compiler Design</p> <p>CS146 - Introduction to Web Programming and Project Development</p> <p>CS115 - Introduction to Computer Science</p> <p>CS135 - Discrete Structures</p> <p>CS284 - Data Structures</p> <p>CS383 - Computer Organization &amp; Programming</p> <p>CS334 - Automata &amp; Computation</p> <p>MA222 - Probability and Statistics</p> <p>CS488 - Computer Architecture</p> <p>CS385 - Algorithms</p> <p>CS496 - Principles of Programming Languages</p> <p>CS347 - Software Development Process</p> <p>CS423 - Senior Design I</p> <p>CS442 - Database Management System</p> <p>CS424 - Senior Design II</p> <p>CS392 - Systems Programming</p> <p>CS492 - Operating System</p> </div> <div style="width: 10%; text-align: center;"> <p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p><p>⊕</p> </div> </div> </div>	<div style="border: 1px solid black; padding: 10px; text-align: center; margin-top: 20px;">ADD NEW SEMESTERS</div>	

Figure 18

In this page we should **click “ADD NEW SEMESTER”** button and a window will jump out as Figure 19 below:

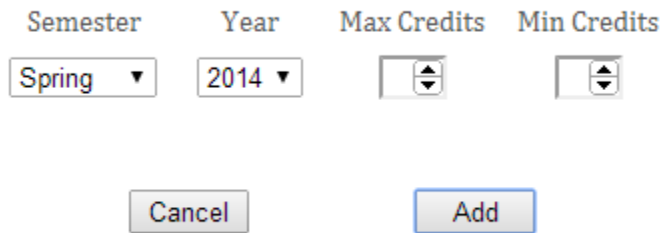


How many semesters you want to add: 1 ▼

Cancel Add

**Figure 19**

Here we select the number of **Semesters** we want to add and **click “Add”** button, then we will skip to another window as Figure 19 shows:



Semester Year Max Credits Min Credits

Spring ▼ 2014 ▼ [spinner] [spinner]

Cancel Add

**Figure 19**

Here we select Semester and Year we want to add , we can also set the Max and Min credits we want to take in this semester, and **click “Add”** button to next page(Figure 20):

STEP 1 : Choosing Courses	STEP 2 : Scheduling Courses	STEP 3 : Getting Study Plan
---------------------------	-----------------------------	-----------------------------

COURSE BIN	
Want to take:	
CS573 - Fundamentals of Cybersecurity	⊕
CS511 - Computer Programming	⊕
CS494 - Compiler Design	⊕
CS146 - Introduction to Web Programming and Project Development	⊕
CS115 - Introduction to Computer Science	⊕
CS135 - Discrete Structures	⊕
CS284 - Data Structures	⊕
CS383 - Computer Organization & Programming	⊕
CS334 - Automata & Computation	⊕
MA222 - Probability and Statistics	⊕
CS488 - Computer Architecture	⊕
CS385 - Algorithms	⊕
CS496 - Principles of Programming Languages	⊕
CS347 - Software Development Process	⊕
CS423 - Senior Design I	⊕
CS442 - Database Management System	⊕
CS424 - Senior Design II	⊕
CS392 - Systems Programming	⊕
CS492 - Operating System	⊕

ADD NEW SEMESTERS	
Spring 2014	⊕
Summer 2014	⊕
Fall 2014	⊕
Winter 2014	⊕

**Figure 20**

Here we can **click the Year of Semester** we selected and add courses from the course bin to the semester we want to take, as Figure 21 shows:

STEP 1 : Choosing Courses	STEP 2 : Scheduling Courses	STEP 3 : Getting Study Plan
---------------------------	-----------------------------	-----------------------------

COURSE BIN	
Want to take:	
CS573 - Fundamentals of Cybersecurity	⊕
CS511 - Computer Programming	⊕
CS494 - Compiler Design	⊕
CS146 - Introduction to Web Programming and Project Development	⊕
CS115 - Introduction to Computer Science	⊕
CS135 - Discrete Structures	⊕
CS284 - Data Structures	⊕
CS383 - Computer Organization & Programming	⊕
CS334 - Automata & Computation	⊕
MA222 - Probability and Statistics	⊕
CS488 - Computer Architecture	⊕
CS385 - Algorithms	⊕
CS496 - Principles of Programming Languages	⊕

ADD NEW SEMESTERS	
Spring 2014	⊕
Summer 2014	⊕
Fall 2014	⊕
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between; padding: 2px 5px;"> <div>CS284 - Data Structures</div> <div style="text-align: center;">⊗</div> </div> <div style="display: flex; justify-content: space-between; padding: 2px 5px;"> <div>CS383 - Computer Organization &amp; Programming</div> <div style="text-align: center;">⊗</div> </div> <div style="display: flex; justify-content: space-between; padding: 2px 5px;"> <div>CS334 - Automata &amp; Computation</div> <div style="text-align: center;">⊗</div> </div> </div> <div style="display: flex; justify-content: space-between; padding: 5px 0;"> <span>Total Credits: <input type="text"/></span> <span>Minimum Credits: <input type="text"/></span> <span>Maximum Credits: <input type="text"/></span> </div>	
Winter 2014	⊕

**Figure 21**

**Step 3:** If you let the system automatically generate the study plan for you in the first step, you can also get you study plan for each semester dynamically form the button “STEP 3 Getting Study Plan” Figure 22:



## Study Plan

### Semester 1

MA116 Calculus II  
MA115 Calculus I  
MGT111 Organizational Behavior & Social Psych  
CH282 Biochemistry Lab  
CH281 Bio & Biotech  
PEP111 Mechanics

### Semester 2

CS573 Fundamentals of Cybersecurity  
CS511 Computer Programming  
CS494 Compiler Design  
CS146 Introduction to Web Programming and Project Development  
MA331 Statistical Methods  
MA134 Discrete Mathematics

### Semester 3

HSS371 Computers & Society  
HHS123 History of European Society and Culture to 1500 (3.0.3)

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**Figure 21**

## 4. Troubleshooting

### 4.1 Frequently Asked questions

- *Q1:* Do I need to login either as a student or an administrator to interact with the system?

- For administrator side, the answer is Yes, to get access to the actions of administrative side like adding/deleting courses/requirements/degree programs, you need to login as an admin with individual credentials as well.
- For student side, the answer is NO, because the system is one time use for student and don't save information for student's study plan.
- Q2: Do I need to follow the rules of prerequisite and corequisite when I make study plan?
  - Yes, you can make a study successfully if you do not follow the rules, and the system will show error messages if you break the rules.
- Q3: For "Course Add" function; is there any preferred format to enter prerequisites and corequisites?
  - Yes; you need to enter these course related information with such format <prefixes><course number> with space/and/or between each course. For example: "CS105 and CS125"; "CS105 CS145"; CS105 or CS201" and so on.


## 4.2 Error Codes and Messages

1. You should notice that because the courses have prerequisite and corequisite relationship, so some courses have such limit must be chosen after other courses in their prerequisite have been chosen. If we do not do this way, we will see error hint in as Figure 22:



**Figure 22**

2. You should not enter the empty information in the input box, if so, the system will show error message as Figure 23:



# Student Scheduling Management System

Course	Course Group	Requirement	Degree Program	Help
--------	--------------	-------------	----------------	------

Requirement -> Requirement 1

Title:

Add simple requirement: Simple Requirement 1 ▼ ADD

List of Simple Requirement:

✕ AND ▼

1

submit

localhost:9000 上的网页显示 :

Please enter a title for the requirement!

确定

Figure 23

## 4.3 Note

- Courses to be added for initial tests are stated in the supporting document of “Demonstration Guideline”.
- Initial version of system involves actual course and requirements data taken from Steven’s Institute of Technology webpage.
- Administrators should get their authentication initials in person from system manager.
- There is no login info required for student side due to the fact that there is no personal information of students needed to build a study plan.